

San Juan and New York Mining and Smelting
Company, Superintendent's House
On State Route 160
Durango
La Plata County
Colorado

HAER No. CO-38-A

HAER
COLO,
33-DUR,
1B-

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

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HAER No. CO-38-A

Location: On State Route 160
Durango, La Plata County, Colorado

UTM: 13.244.100E 41.27.810N
Quad: Durango West

Date of Construction: c. 1890

Present Owner: Hecla Mining Company
Box C-8000
Coeur d'Alene, Idaho 83814-1931

Present Use: The smelter site has been abandoned since 1963, except for routine maintenance operations on the tailings piles. Radioactive contamination of the site and its remaining structures, resulting from uranium processing in the 1940s, 1950s, and 1960s, has made the site eligible for Department of Energy remedial action, which consists of decontamination and stabilization at another location. Removal and stabilization of the site's structures, tailings piles and adjacent soils is scheduled to begin in early 1987.

Significance: The superintendent's house is one of two remaining structures at the San Juan and New York Mining and Smelting Company (SJ&NY) plant in Durango, Colorado (the other being a smelter stack). It is located approximately .2 miles north of the stack. SJ&NY grew to become the largest smelting operation in the San Juan Mountain mining region, originally processing gold, silver, lead and copper primarily for eastern manufacturing concerns. Beginning in the 1940s, the plant processed uranium for World War II research in Los Alamos, New Mexico, and post-war security programs.

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Edited, Retyped
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I. HISTORY

The 1880-1881 brick and stone smelter stack is located at the base of Smelter County in Durango, Colorado, and is one of only two surviving structures of a late 19th century complex ore smelting site (the other being the smelter stack [see HAER No. CO-38]). By 1883, the site had two matching stacks, the second having been built as part of the plant's first major expansion. Since the stack is an integral part of the early smelter complex, understanding its significance must consider the early mining activities in the San Juan Mountains in southwest Colorado, and the development of the San Juan and New York Mining and Smelting Company and its successors.

The San Juan Mountains have supported mining activities since early Spanish occupation of the area. Smelting, the processing of separating the metallic constituents from mined ores, predictably became a necessary industry to this area rich in silver, gold, lead and copper deposits. As early as the 1870s, smelting facilities began appearing in various mining camps and areas throughout the San Juan Mountains. Their capacity was small, however, and not capable of supporting the major mining industry that was to develop in the late 1800s. Two significant reasons for the poor production of these early smelters were the severe winter climate and the lack of a transportation system connecting the mining communities throughout the rugged mountain terrain. Records show that sending ore to smelters in Pueblo and Denver, Colorado, was often cheaper and easier than using the few existing area facilities.

The 1880 construction of the Denver and Rio Grande Railroad (DR&G) into the newly-established railroad center of Durango provided the first major transportation service into the region. The D&RG, in combination with the simultaneous construction of railroad lines from Durango into the mining camps, immediately placed Durango in a position of becoming a regional smelting center. Another factor that ultimately contributed to the development of Durango's smelting industry was D&RG President William J. Palmer's desire to integrate his interests in the railroad, the Colorado Coal and Iron Company, in extensive coking coal deposits near Durango, and in various regional mines, in order to increase revenues for the railroad. To achieve these goals, Palmer and his associates organized the San Juan and New York Mining and Smelting Company (SJ&NY). In 1880, they purchased the existing Silverton Smelting Works (1874) in Silverton, Colorado, about 50 miles north of Durango, and also began purchasing additional mines, coal deposits in the Animas River Valley, south of Silverton, and a limestone quarry near Durango. SJ&NY had positioned itself to provide everything

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necessary for its smelting operation except the mined ore. In spite of the ambitious efforts of SJ&NY, the Silverton smelting operation proved unsuccessful, due to its relatively small size (10 ton daily capacity), severe winter weather, and the poor regional transportation system.

Prompted by these troubles, and because of the advantages of Durango, SJ&NY decided to relocate its smelting operation to the new railroad center. Durango's advantages over Silverton included its close proximity to the mines of the Animas, Iron Spring and Rico mining districts, its easy outlets to the south, north and west, and its closer proximity to the SJ&NY-owned coal, limestone and other holdings. Relocated involved the construction of a new smelter facility in Durango. Success of this new facility was considered guaranteed once the railroad construction was completed between Durango and Silverton, making Silverton ores readily accessible.

SJ&NY purchased a parcel of land immediately west of the Durango townsite, on the west bank of the Animas River and at the foot of what was to be known as Smelter Mountain. Construction of the new works began in late 1880, under the direction of John A. Porter, SJ&NY general manager; Ernest Waters, engineer in charge of construction; Captain Stanley, superintendent of brick and stone work; and Don Fisher, superintendent of carpentry work. The original construction site was to cover an area of 100 feet by 500 feet¹ and, according to an 1893 account, initially consisted of one blast furnace and stack, two reverberatory furnaces and eight beehive coke ovens. The plant was capable of treating 25 tons of ore per day. A brick office building accommodated the general manager, a general office, an assay room and a laboratory. The smelter was constructed to treat all types of ore and the first furnace was 'blown in' on April 16, 1881.

The railroad line from Durango to Silverton was completed in 1882 and, in 1883, the smelter was described as "...running smoothly, producing 5 tons of bullion per day."² In its first two years of operation, the smelter had treated 2,300 tons of ore, producing \$220,000.00 worth of bullion. Improvements to the plant in 1883, included a new 30-ton blast furnace and stack, and the installation of new railroad lines onto the site. The new stack was constructed to the north of, and to match, the original stack. By this time, the plant supported 40 fulltime employees and had established itself as Durango's largest employer--a status that would remain throughout most of its history. An 1893 pamphlet described that the fumes of the plant "...are carried off through two large stacks each 136 feet in height..."³ By 1887, plans called for doubling the smelter's capacity, in order to adequately handle the ores anticipated from the soon-to-be-completed railroad line

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from the Rico mining district to the northwest. By the end of 1887, over \$1,000,000.00 worth of bullion had been treated, making the SJ&NY works the ninth largest in Colorado and the largest in the San Juan Mountain region. The SJ&NY operated the Durango smelter until 1888.

A reorganization of the SJ&NY in 1888 transferred ownership to the San Juan Smelting and Mining Company, bringing fresh management and financial input to the operation. Between 1888 and 1893, the plant grew to its largest size and ore treating capacity, in spite of slowdowns in Silverton's mining production and falling silver prices. During this period, employment had risen to 300 fulltime employees at the smelter works, with an additional 17 employees at the coke ovens alone. Durango had become a business, transportation, cultural and banking center, and was known as the "Smelter City."⁴ In 1892, 12,000 oz. of gold, 1,500,000 oz. of silver, 6,000,000 lbs. of lead and 1,089,552 lbs. of copper bullion were shipped from the plant. By the end of 1893, the operation consisted of six blast furnaces treating 300 tons of ore per day, five boilers, power crushers and samplers, six blowers, 10 reverberatory furnaces, 40 beehive coke ovens, and various support facilities including a water distribution system, electric light plant and a brick residence for the plant superintendent. The plant maintained these basic components until the early 1940s.

The continuing Silverton mining slowdown, coupled with the worst depression of the century in the winter of 1893, resulted in a mining crash from which the smelter was not able to recover. The plant closed in 1894, after letting 400 employees go. It remained closed until 1895, when it was leased by the Omaha and Grant Smelting Company (OGS) of Denver. OGS purchased the property in late 1895, only to be absorbed by the American Smelting and Refining Company conglomerate in 1899. Although the smelter continued to process local ores, labor disputes, mining slowdowns and the Depression of 1929, caused the plant to close again in November 1930. Following this shutdown, up until 1942, most of the original buildings were razed. The original smelter stack was retained, presumably with the hope of its reuse later.

The site remained vacant and inoperative until 1942, when World War II created a demand for vanadium, a steel hardener found in carnotite ore, for military equipment production. In 1942, the U. S. Vanadium Corporation (USV) leased the property and rebuilt a smaller facility, supported by about 50 employees, for vanadium processing under contract with the Department of the Army. In 1943, USV, under contract with the Atomic Energy Commission (AEC), began reprocessing the vanadium tailings to extract uranium, also a component of carnotite ore. This production was supplying the Manhattan Project at Los Alamos, New Mexico,

approximately 230 miles southeast of Durango. This period of uranium processing lasted until 1945. Again, the plant was closed, this time until 1948.

Under a new lease agreement, the Vanadium Corporation of America (VCA) reopened the smelter in 1948, under an AEC contract to produce uranium concentrate for post-war security efforts. VCA purchased the property in 1953, and continued reprocessing the existing vanadium tailings in addition to processing ore from VCA-owned mines on the far western slope of the Rocky Mountains and from other mines in the San Juan Basin. This effort lasted until 1963, employed 200 workers, and helped create a post-war boom in Durango. During the 14 years VCA processed uranium for the AEC (1949-1963), approximately 1,600,000 tons of uranium ore were processed in Durango.⁵ In 1963, when the plant closed, the site was largely razed, again except for the remaining smelter stack and superintendent's house.

VCA merged with the Foote Mining Company in 1967, but the site was not to be active again. In 1976, the property was purchased by the Albuquerque, New Mexico-based Ranchers Exploration and Development Corporation (REDC), which was merged into Hecla Mining Company in 1984. REDC purchased the property to reprocess the tailings again, but was never able to receive the required state licenses necessary for the work. In 1976, a stabilizing grass cover was planted on the tailings piles, and the site has simply been maintained.

II. DESCRIPTION

A. Site

The site of the 1880 smelter is an approximately 147-acre tract located on the west side of Durango, on the west bank of the Animas River, and at the foot of Smelter Mountain. The elevation of the smelter site is approximately 6,500 feet above sea level. Two tailings piles, resulting from the milling and smelting operations of the 1940s, 1950s and 1960s, abut the base of the mountain, covering approximately 1,230,000 tons of tailings, and the other being 90 feet high and containing approximately 325,000 tons of tailings.⁶ Because of the steepness of the tailings piles and slopes varying from 2:1 to 1.5:1, grass has been planted on the piles in a somewhat successful stabilization attempt. The only extant structures on the site relating to the earlier smelting facilities are the 1880-1881 stone and brick smelter stack and the c. 1890 brick superintendents house.

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B. Superintendent's House

The superintendent's house is located approximately .2 miles north of the smelter stack on the west bank of the Animas River. Although the house is not original to the 1880 smelter site development, and has been not eligible for National Register of Historic Places listing, it is discussed here in order to document the only other extant early structure on the site. The house is a simple 1-1/2-story, brick, gable end structure with the ridge running east/west. A small one-story, brick, hipped roof wing extends to the east at the back (east) of the house. The brick walls are laid in common bond with headers every eighth course on a cut stone foundation. Because of the slope of the site, the foundation is exposed above grade approximately three feet on the east. The roof is corrugated metal installed over earlier, probably original, wood shingles.

A one-story hipped roof porch with a center gable extends across the front (west) elevation, supported by six turned posts and 10 sawn brackets. A center 2 light over 2 panel front door is flanked by two, 2 over 2 wood double hung windows. The gable end above the porch roof is finished with decorative cut cedar shingles and has a centered wood window frame. The south, east and north elevations have 3, 1 and 2 window openings respectively. An original rear porch at the northeast corner has been enclosed with frame construction for a bathroom, obscuring the original exterior brick walls, rear door and two windows.

The first floor plan includes six rooms with a stairway running up to the west at approximately the center of the house. The second floor includes a stair hall and a small room at the west end. A partial basement exists below one-half of the rear (east) wing and is accessible from the interior by stairs located against the east wall.

The interior detailing is composed of hardwood floors and plaster walls and ceilings. The trim is plain 1 by 6-inch wood baseboard, fluted 1 by 6-inch wood door and window casing, and bullseye corner blocks at each first floor door and window. The overall condition of the house is poor.

III. STATUS OF PROPERTY

Because of the carnotite processing that took place at the smelter during the 1940s, 1950s, and 1960s, the site accommodates two piles of radioactive tailings. In 1978, the Durango site was determined

eligible for remedial action under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). This determination was made by the Department of Energy (DOE), the agency authorized to coordinate remedial actions to bring radiation levels of eligible sites within standards established by the Environmental Protection Agency (EPA). A DOE-prepared environmental impact statement for the Durango site included the preferred remedial action alternative of decontaminating the site and structures, and stabilizing the contaminated materials at a site in Bodo Canyon, on the west side of Smelter Mountain. This alternative required the demolition of the site's remaining structures.

In September 1984, the Colorado State Historic Preservation Officer (COSHPO) determined that the 1880 smelter stack was eligible for listing in the National Register of Historic Places (NRHP) under NRHP evaluation criteria A, "...for its association with the industrial development of Durango."⁷ At the same time, the COSHPO determined that the superintendent's house was not eligible for NRHP listing because it "...is not a distinctive example of a type, period or method of construction and is not the best representative structure associated with this industrial complex."⁸

Decontamination and preservation of the stack, in situ, was considered not feasible by DOE because of safety and cost concerns, and decontamination processes that would jeopardize its architectural and structural integrity.⁹ Therefore, demolition was considered the only feasible course of action. Demolition of the stack is planned for early 1987,¹⁰ as part of the entire site's decontamination and stabilization. DOE proposed to archivally document the stack according to Historic American Engineering Record (HAER) standards to mitigate the adverse effect of razing the structure. The level of documentation necessary to conform to HAER standards was specified by the National Park Service, Rocky Mountain Regional Office, Denver, Colorado.

IV. FOOTNOTES

- 1 Durango Record, January 10, 1881, p. 4.
- 2 The Southwest, February 3, 1882, p. 4.
- 3 Board of Trade, Durango Metropolis of the Great Southwest, Durango, 1893.
- 4 Ibid.

- 5 U. S. Department of Energy, Engineering Assessment of Inactive Uranium Mill Tailings: Durango Site, Durango, Colorado, by Ford, Bacon and Davis Utah, Inc., unpublished report, Salt Lake City, 1981, pp. 1-7.
- 6 Ibid.
- 7 U. S. Department of Energy, Preliminary Case Report of the Durango Smelter Stack, unpublished report, Albuquerque, 1986, Attachment D.
- 8 Ibid.
- 9 Ibid., Attachment C. An analysis of the stack made October 3, 1986, by P. M. Viarnes at the request of DOE, resulting in an estimate of \$700,000.00 to \$1,200,000.00 for decontamination and preservation of the stack, in situ. In addition, the only procedures available for decontamination of radioactivity, acceptable to EPA standards, were considered in direct violation of Secretary of the Interior's Standards for Historic Preservation number 7, i.e., sandblasting and strong acid washing.
- 10A Durango citizen's committee, formed in 1986 to consider ways to save the stack, developed a series of options that would preserve the stack as a Durango landmark. The stack's radioactive contamination, proximity to the tailings removal operation, overall structural integrity and ownership are among the considerations being addressed as part of a preservation program. Final conclusions and recommendations from the local group regarding the stack's future had not been made by the time this documentation report was prepared.

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Durango Record, February 5, 1881.

The Southwest, February 3, 1883.

The Southwest, June 6, 1883.